

THE GENUS *MERCIERA* A.DC.

By R. S. ADAMSON.

The small genus *Merciera* is endemic to the south-western part of the Cape Province. There are no certain records of its occurrence north of the Tulbagh division nor eastwards of that of Bredasdorp. The main concentration of species is in the Caledon division.

When it was founded by A. DeCandolle (Monog. Camp. 58 & 369. t5. 1830) the genus was called "*genus incertae sedis*" on account of the peculiar structure of the ovary. Since that time it has been placed in Campanulaceae and associated with the genera *Roella* and *Prismatocarpus*, especially with the former from which it has probably been derived.

A. DeCandolle originally recognised three species. Another was added by Buek (E. & Z. Enum. 387. 1837) but Sonder (Fl. Cap. 3. 596. 1865) reduced the number to two. Five species are now recognised.

In the course of this revision living material has been examined wherever possible. In addition to the author's own collections material from the following herbaria has been studied:—

Bolus Herb., University of Cape Town	BOL
Guthrie Herb., University of Cape Town.	CT
South African Museum, Cape Town	SAM
Compton Herb., Nat. Bot. Gds., Kirstenbosch.	NBG
Royal Bot. Gds., Kew.	K
British Museum (Nat. Hist.), London.	BM
Naturhist. Riksmus., Stockholm	S
Conservatoire de Botanique, Geneva.	G.
Botany School, Cambridge.	CGE
Dept. of Botany, Oxford.	OXF.

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MERCIERA

A.DC. Monog. Camp. 58 & 369. t5. 1830.

Small shrublets or perennials woody at the base. *Stems* branched mostly from the base. *Leaves* crowded, alternate, fasciculate, linear, entire, often coarsely ciliate. *Flowers* axillary, sessile or almost so, solitary in

the axils. *Calyx* short. *Corolla* elongated, with a narrow cylindrical tube and more or less spreading lobes. *Stamens* free from the corolla, the filaments long and slender, not expanded at the base. *Ovary* wholly inferior, incompletely 2-chambered, with 4 basal ovules though rarely more than 1 or 2 developing. *Style* usually longer than the corolla, the stigma 2-fid. *Fruit* small, hispid, crowned by the persistent calyx, 1 or 2 seeded, indehiscent.

The type species is *M. tenuifolia* (L.f.) A.DC.

N.B.—It may be noted that E. P. Phillips (Gen. S. Afr. Pl. ed. 2. 753. 1951) quotes *M. leptoloba* A.DC. as the type species though he gives no reason for so doing.

Leaves most often edged by coarse white setose cilia. *Calyx* and ovary hidden by the crowded leaves. *Corolla tube* elongated, the lobes valvate. *Filaments* hairy except at the tip, the hairs often entangled with hairs on the inside of the corolla tube, giving an appearance of adnate stamens. *Ovary* small, barrel-shaped and coarsely hispid, 2-chambered at the base when young but 1-chambered when mature. *Fruit* not much enlarged, leathery, indehiscent, 1- or 2-seeded.

Galls on the flowers and especially on the ovary are common and result in a considerable amount of swelling.

All the species flourish especially where the surrounding vegetation is neither dense nor tall. They become largely suppressed in the climax phases. All are resistant to fire and sprout from the base after burning. The size and habit of the plants exhibit much variation in accordance with the time interval since a fire. The maximum degree of activity both vegetative and in flowering occurs 4—6 years after a fire.

In habit and leaf structure this genus is closely similar to *Roella* and especially the series *Ciliatae* of that genus, and suggests a derivation from that. The reduction in number of ovules and the indehiscent fruit might be correlated with the protection afforded by the crowded leaves and the sessile axillary position of the flowers. The long tubular corolla has parallels in other genera in the family, for example in *Prismatocarpus* subgen. *Afrotrachelium*, and in some species of *Wahlenbergia*. It is also found in *Rhigiophyllum* and in *Siphocodon* though in these genera it is associated with epipetalous stamens.

KEY TO THE SPECIES.

1. Leaves flat, usually coarsely seto-ciliate: stamens not longer than the corolla tube.
2. Flowers blue, violet or purple.
3. Leaves crowded, over 1 cm. long: flowers longer than the leaves.

- 4. Leaves ascending: corolla lobes hairy on the back 1. *M. tenuifolia*.
- 4. Leaves spreading: corolla lobes glabrous 1. *M. tenuifolia* var *azurea*.
- 3. Leaves scattered, less than 1 cm. long, flowers not or very slightly longer than the leaves: corolla lobes glabrous 2. *M. Eckloniana*.
- 2. Flowers white, rarely tipped with pink or purple:
 - 5. Leaves rarely over 1.5 cm. long, spreading: corolla about as long as the leaves, the lobes spreading, shorter than the tube: style much exserted 3. *M. brevifolia*.
 - 5. Leaves crowded, ascending, the lower over 2 cm. long: flowers slightly longer than the leaves: corolla lobes erect, about as long as the tube: style as long as the corolla 4. *M. leptoloba*.
- 1. Leaves trigonous, finely ciliate: stamens exserted, distinctly longer than the corolla tube 5. *M. vaginata*.

1. ***M. tenuifolia*** (L.F.) A.DC. Monog. Camp. 370. t5. 1830. *Trachelium tenuifolium* L.f. Supp. Pl. 143. 1781. *Roella tenuifolia* Thumb. Fl. Cap. ed. Schult. 174. 1823.

Stems woody, 15—30 cm. long, decumbent or sprawling but suberect at the tips. *Leaves* much crowded, ascending, 1—3 cm. long, commonly 1.5—2 cm., linear, flat, at the edges coarsely seto-ciliate either all along or in the lower half, more or less hispid on the back but glabrescent when old, the midrib below broad, about $\frac{3}{4}$ the width of the leaf. *Flowers* lateral or subterminal, as long as or longer than the leaves, violet, purple or blue-purple. *Bracteoles* 4—5 mm. long, keeled. *Calyx* lobes 1—2 mm. long, glabrous, keeled, acute, usually hyaline at the tip. *Corolla* tube 1.2—2.5 cm. long, occasionally white, the lobes 0.2—0.5 cm. long, acute, cucullate, hairy on the back either all over or on the middle line only. *Stamens* as long as or shorter than the corolla tube: *anthers* linear, 1.5 mm. long. *Style* as long as or longer than the corolla, glabrous or thinly hairy, thickened at the top. *Ovary* barrel-shaped, 1.5—2 mm. long, densely hispid.

The type is in herb. Thunberg, Uppsala. A. DeCandolle's type is *Ecklon* s.n. in herb. Dunant (G).

Heathy sands on mountains.

Variable in size and in the degree of hairiness, also in the number and position of the flowers. The hairs on the corolla lobes may be many or few and are often wanting in the older flowers. The stamens are most commonly as long as the corolla tube but in large flowered forms may be shorter, as short as half the length. Ripe fruit is rare, most of the ovaries being galled.

TULBAGH: Nieuwe Kloof, *MacOwan* 3103 (SAM). PAARL: Franschoek Pass. *Compton* 21897 (NBG); *Pillans* 6749 (BOL. K). CALEDON: Hottentots Holland, *Zeyher* 3153 (S); Kogelberg, *Esterhuysen* 1007 (BOL); Paarde-

berg. *Adamson* 4201; *Stokoe* 9113 (SAM); Palmiet River, *Adamson* 4166, 4908; *Esterhuysen* 12569 (BOL); *Stokoe* 8653 (BOL), sn. (BOL. SAM); Onrust, *Esterhuysen* 4229 (BOL); Heuning Klip, *Adamson* 4089 (CT), 4097; Grabouw, *Bolus* 4160 (BOL); Houwhoek, *Adamson* 4417; *Bolus* 6948 (BOL), sn. (BM. BOL); *Ecklon & Zeyher* 2417 (SAM); *Guthrie* 2275 (NBG); *Salter* 4056 (BM); *Schlechter* 7370 (BM. BOL. G.K.); *Pappe* (SAM); *Zeyher* 3152 (K.S. SAM); Caledon, *Marloth* 4767 (K); Aries Kraal, *Compton* 16832 (NBG).

WITHOUT LOCALITY: *Dunant* (G); *Masson* (BM).

A specimen collected by *Bowie* (BM) has been labelled (in pencil) "Krantzbosch, George". If this is correct it marks a large extension of the known range. No recent collection has been made in that area.

Var. *azurea* *Adamson* comb. nov.

M. azurea Schltr. Bot. Jahrb. 24. 447. 1898.

Smaller and stouter than the ordinary form. *Stems* more or less erect, 5—15 cm. high, usually in groups. *Leaves* much crowded, spreading, often falcate, coarsely setose-ciliate on the lower part, rather broader and more rigid than in the type. *Flowers* crowded towards the tips of the branches, longer than the leaves. *Corolla* 0·8–1·0 cm. long, deep violet or purple-blue, the lobes glabrous.

The type is *Schlechter* 7263.

Exposed on rocky places on mountains. The non-ciliate part of the leaf varies from half the length to the tip only.

TULBAGH: Nieuwe Kloof, *MacOwan* 3103*b* (SAM). CALEDON: Sir Lowry Pass, *Ryder* 65 (K); *Salter* 4157 (BM); *Schlechter* 7263 (BM. G.K. SAM); Steenbras, *Galpin* (K); *Moss* 1522 (BM); Kogel Bay, *Esterhuysen* 10007 (BOL); Rooi Els, *Esterhuysen* 13721 (BOL); Palmiet River, *Levy's* 5372 (CT); Kleinmond, *Barnard* (SAM); Onrust, *Esterhuysen* 4229 (BOL); Hermanus, *Compton* 14234 (NBG); *Leighton* 341 (BOL); Grabouw, *Bolus* 4160 (BOL); *Salter* 4157 (BM. K); Aries Kraal, *Compton* 16835 (NBG); *Leighton* 906 (BOL).

WITHOUT LOCALITY: *Masson* (BM).

2. *M. Eckloniana* Buek in E. & Z. Enum. 387. 1837.

M. tenuifolia var. *Eckloniana* Sond. Fl. Cap. 3. 596. 1865.

Allied to *M. tenuifolia* but more slender and more branched. *Leaves* not much crowded, spreading or falcate-ascending, 0·5—1 cm. long, coarsely setose-ciliate but with few hairs on the back. *Flowers* in the upper axilis, usually confined to 1—2 cm. at the tip. *Corolla* deep violet, as long as or slightly longer than the leaves, the lobes spreading, glabrous. *Stamens* about as long as the corolla tube. *Style* exerted. *Ovary* densely hispid.

The type is *E. & Z.* 2420 (S).

Rocky places at rather higher levels than *M. tenuifolia*. In habit and general appearance like *M. brevifolia*. Very distinct in its typical form but sprouts coming up after a fire may have much crowded leaves.

TULBAGH: Waterfall, *E. & Z.* 2420 (S. SAM); Kluitjeskraal, *Esterhuysen* 1688 (BOL). PAARL: Wemmershoek, *Barker* 286 (NBG); Gem Peak, *Esterhuysen* 11424 (BOL); Franschhoek, *Schlechter* 9228 (G.K.); Franschhoek Pass, *Gillet* 755 (K); *Salter* 2965 (BOL. K). STELLENBOSCH: Easter Peak, *Esterhuysen* 14361 (BM). CALEDON: Viljoens Pass, *Salter* 2030 (BM. K); Swartberg, *Bolus* 634 (BM. BOL. G.K.).

WITHOUT LOCALITY: *Zeyher* sn. (S).

3. *M. brevifolia* A.DC. Monog. Camp. 371. 1830.

Stems woody, decumbent, much branched from the lower parts, 10—30 cm. long. *Leaves* not crowded, spreading, 0·8—1·5 cm. long, but rarely over 1·2 cm., the younger ascending, the lower usually falcate, glabrous but setose-ciliate at least in the lower half. *Flowers* white, lateral, as long as or shorter than the leaves. Flower buds clavate. *Bracteoles* 1·5—2·5 mm. long, mucronate. *Calyx lobes* 1—1·5 mm. long, mucronate, connate at the base. *Corolla* 0·5—0·8 cm. long, the lobes about 2 mm. long, ovate, acute, glabrous, usually spreading. *Stamens* as long as the corolla tube. *Style* usually longer than the corolla, sometimes as much as 1½ times as long. *Ovary* 1—1·5 mm. long hispid.

The type is *Masson* (BM).

Lower mountain slopes, especially among stones.

Specimens with more crowded and shorter leaves and small flowers were issued by *Schlechter* (7372) under the manuscript name, *M. muraltioides*, but these cannot be separated on any reliable features.

TULBAGH: Suurvlaakte, *Stokoe* (SAM); Elands Kloof Mts., *Esterhuysen* 1688 (BOL). WORCESTER: Du Toits Kloof, *Drege* (CGE. G.K. OXF. S. SAM). PAARL: Dal Josaphat, *Tyson* 899 (SAM). STELLENBOSCH: Bottelary, *L. Bolus* (BOL. K); Faure, *Compton* 10372 (NBG); Somerset West, *Parker* 3455 (BOL), 3550 (BOL. NBG); Sir Lowry Pass, *Guthrie* 2792 (NBG); *Schlechter* 7211 (BM. G.K.). CALEDON: Hottentots Holland, *Bowie* (BM); Houwhoek, *Adamson* 4899, 4901; *Guthrie* (NBG); *Schlechter* 7372 (BM. BOL. G.K.); Heuning Klip, *Adamson* 4096; Babylons Tower, *Zeyher* 3154 (BOL. K. S. SAM); Shaws Mt., *Compton* 10603 (NBG); *Salter* 5136 (BM. BOL. K.); Caledon, *Bolus* 9170 (BOL); Swartberg, *Bolus* 7402 (BOL); *Ecklon* 2418 (SAM); *Pappe* (K. S. SAM). BREDASDORP: Bredasdorp, *Galpin* 11316 (K); Elim, *Adamson* 4780.

WITHOUT LOCALITY: *E. & Z.* 2419 (SAM); *Hooker* (G); *Zeyher* 1083 (K).

4. *M. leptoloba* A.DC. Monog. Camp. 371. 1830.*M. brevifolia* var. *leptoloba* Sond. Fl. Cap. 3. 596. 1865.

Stems decumbent, woody, 10—30 cm. long, with groups of branches at the end of a year's growth. *Leaves* much crowded, the upper ascending, the lower spreading or partly falcate, decreasing in size from below upwards, the lower 1·2—2 cm. long. *Leaves* rather distantly setose-ciliate, the midrib below not more than a third the width of the leaf. *Flowers* white, lateral, usually shorter than the leaves. Flower buds cylindrical. *Bracteoles* 3—5 mm. long. *Calyx lobes* 1 mm. long, glabrous, acute or subacute. *Corolla* 0·8—1·4 cm. long, the lobes narrow, ascending, almost as long as the tube, 0·4—0·6 cm. *Stamens* as long as the corolla tube. *Style* as long as or slightly longer than the corolla. *Ovary* 1·2—2 mm. long, densely hispid on the upper half, the lower narrower and glabrous.

The type is a specimen from *Hooker* in herb. DC. (G).

Sand on lower mountain slopes.

The commonest species though not much collected by the earlier collectors. Easily recognised by the crowded leaves decreasing in size from below upwards, and by the lateral flowers with corolla lobes as long as the tube. Sonder (l.c) reduced this to a variety of the previous species, a procedure which has resulted in much confusion of the two in collections.

CAPE: Steenberg, *E. & Z.* 2419 (S). CALEDON: Sir Lowrys Pass, *Adamson* 4895; Kogel Bay, *Leighton* 2465 (BOL); Kogelberg, *Compton* 18951 (NBG); Palmiet River, *Adamson* 4046 (CT), 4162, 4180; *Compton* 6116 (NBG); *Levyns* 2667, 3848 (CT); *Pillans* 8207 (BOL); *Stokoe* 8654 (BOL), sn (SAM); Onrust, *Esterhuysen* 4954 (NBG); Hermanus, *Gillett* 628 (K); *Kensit* (BOL); *Leighton* 343 (BOL); Mossel River, *Potts* 5054 (SAM); Heuning Klip, *Adamson* 4095; Houw hoek *Adamson* 4898; *Bolus* 5105 (BOL); *Compton* 14225 (NBG); *Guthrie* (NBG); Caledon, *Zeyher* (S). BREEDASDORP; Napier, *Adamson* 4774, 4775; Elim, *Adamson* 4776; *Esterhuysen* 19594 (BOL); Viljoens Hof, *Adamson* 4781; Zondags Kloof, *Compton* 10223 (NBG); Baardscheersbosch, *Compton*, 19016 (NBG); *Leighton* 2587 (BOL).

WITHOUT LOCALITY: *Hooker* (G); *Thom* (K).

N.B.—Ecklon and Zeyher's record for the Cape Peninsula made more than a century ago has not been confirmed by any recent collector.

5. *M. vaginata* Adamson sp. nov.

Suffrutex suberecta dense foliata ramis brevibus. Folia supra concava subtus carinata basi late vaginata marginibus ciliatis nec setosis. Flores solitarii foliis brevioribus. Corolla saepissime 6-lobata. Stamina tuba corollae valde langiora. Fructus monospermus.

Stems woody, erect or suberect, 10—25 cm. high, with many short branches, densely clothed with leaves. *Leaves* rigid, ascending, 1·5—2 cm. long, acute, concave above, more or less keeled below, striate when dry, the base widened to a broad clasping sheath 4—5 mm. wide, the edges ciliate with fine hairs but not setose. *Flowers* mostly solitary, shorter than the leaves, mostly on the short branches. *Calyx lobes* 4—5 mm. long, acute, ciliate. *Corolla* pinkish-purple, the tube 8—9 mm. long, the lobes usually 6, 3 mm. long, acute, glabrous, spreading. *Stamens* usually 6, exerted 2—3 mm. beyond the corolla tube: *filaments* very slender, hairy on the lower part and loosely adherent to the corolla tube. *Style* hairy, slender, longer than the stamens. *Ovary* ovate, hairy. Fruit 1-seeded.

The type is Stokoe sn. (SAM).

Rare on the upper part of the Hottentots Holland Mts. Distinguished from all the other species by the long exerted stamens.

CALEDON: Eastern slopes of Somerset Sneeuwkop, *Stokoe* (SAM).

Excluded species:—

M. heteromorpha Buek. in E. & Z. Enum. 387. 1837.

=*Carpacoce heteromorpha* Bolus J. Bot. 34. 25. 1896.